DOCUMENT RESUME

ED 363 857 CS 011 456

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TITLE Learning Styles and Students' Reading Selections. A Scholarly Study.
PUB DATE 93
NOTE 45p.; Specialist in Education Project, Georgia State University.
PUB TYPE Dissertations/Theses - Undetermined (040) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Books; *Cognitive Style; Comparative Analysis; Grade 7; *Independent Reading; Junior High Schools; Junior High School Students; Literary Genres; Middle Schools; Questionnaires; Reading Habits; *Reading Interests; *Reading Material Selection; Reading Research; *Student Interests; Student Reaction
IDENTIFIERS Cobb County Public Schools GA; Middle School Students; Student Surveys

ABSTRACT

A study determined the relationship, if any, between students' learning styles and the types of books they choose to read independently, as well as the amount of time they spend reading independently. Study participants were 72 seventh-grade students attending a middle school in Cobb County, Georgia, who had scored 70 or above in any of the four learning styles on the Hanson Silver Learning Preference Inventory. Student responses were collected and tabulated according to learning style. Results from a questionnaire show that mastery books were chosen as the favorite type of book to read by 47.2% of the students in the sensing-feeling learning style. Nearly 54% of the intuitive-feelers chose fantasy, and 50% of the intuitive-thinkers chose humor as their favorite type of book to read independently. Based on these results, it appears that the type of book that students chose to read independently was not related to their learning style. In addition, the students' learning style was not found to be related to the amount of time they spent reading independently. (Eight tables of data are included; 27 references and the survey questionnaire are attached.) (Author/RS)

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ED 363 857

LEARNING STYLES AND STUDENTS' READING SELECTIONS

by

SHIRLEY SAWYER

A SCHOLARLY STUDY

Presented in Partial Fulfillment of the Requirements
for the Degree of Specialist in Education in the
Department of Curriculum and Instruction
in the College of Education
Georgia State University

Atlanta, Georgia

1993

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ACCEPTANCE

This scholarly study, LEARNING STYLES AND STUDENTS' READING SELECTION, by SHIRLEY SAWYER, was prepared under the direction of the candidate's academic advisor. It has been approved and accepted in partial fulfillment of the requirements for the degree of Specialist in Education in Library Media Technology in the Department of Curriculum and Instruction in the College of Education, Georgia State University.

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3-30-93
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ABSTRACT

LEARNING STYLES AND STUDENTS' READING SELECTION

by
SHIRLEY SAWYER

PURPOSE

The purpose of this study was to determine the relationship, if any, between students' learning styles and the types of books they choose to read independently and the amount of time they spend reading independently.

METHODS AND PROCEDURES

In a Cobb County, Georgia, middle school, 72 students from a group of 384 seventh-grade students that scored 70 or above in any of the four learning styles on the Hanson Silver Learning Preference Inventory formed the population for this study. A questionnaire was designed to determine the students' independent reading preferences and the amount of time the students spent reading independently. The students' responses were grouped and tabulated according to their learning style. A chi-square test was used to determine whether or not the observed frequencies of the variables in this study were different from that expected to occur by chance.

RESULTS

The results of the questionnaire showed that mystery books were chosen as the favorite type of book to read by 47.2% of the students in the sensing-feeling learning style. Intuitive-feelers chose fantasy as their favorite type of book by 53.8%. Fifty percent of the intuitive-thinkers chose humor as their favorite type of book to read independently. Although the results of the question asking for the students' favorite type of book were statistically significant, caution should be taken in interpreting the data because the number of cells with the expected frequency less than 5 was very high (94.4%). No other statistically significant data were found.

CONCLUSIONS

The type of book that students chose to read independently was not found to be related to their learning style. The students' learning style was also not found to be related to the amount of time they spent reading independently.

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CHAPTER 1

INTRODUCTION

Overview

A recent study of 500 middle school students showed that 75% of the students read less than 1 hour daily on a regular basis, and 20% had read only one book for pleasure in the last 6 months (Lesesne, 1991). Another survey showed a decline in the number of enthusiastic readers between the ages of 6 and 10 (Cheatham, 1989). Weeks, executive director of the American Association of School Librarians, stated, "It is critical that we look for ways to maintain a child's early enthusiasm toward reading because we've seen a direct correlation between reading at young ages and a child's future ability to comprehend and learn" (Cheatham, 1989, p. 9).

There is a need to find ways to encourage students to read. If we understand why students select certain reading materials and why some students read more than others, we may be able to help reluctant readers select books that will interest them.

In the past, many activities and strategies to create lifetime readers have been used haphazardly in the classroom. A more "scientific" approach may produce better results (Lesesne, 1991).

Using a student's individual learning style may be a way to help students select books that they will enjoy reading. If students of a certain learning style repeatedly select a particular type of book to read independently, this information may be used to help reluctant readers of that same learning style select books that will interest them.

The study of learning styles started in the 1960s. Since then there have been many different ways to measure and characterize learning styles. Some researchers describe learning styles according to elements in the environment. Some students work better alone, others work better with peers, and still others require interaction with adults. Some students learn better when it is absolutely silent, others can block out sounds, and some require sound to learn (Dunn & Dunn, 1979).

Another way to describe learning styles is the way learners perceive and make judgments. The behavioral descriptions of the four basic learning styles of Hanson Silver Strong & Associates, Inc. (1978), come from pairing the perceptual and judgment functions. The four styles are: (a) the sensing-thinking learner, (b) the sensing-feeling learner, (c) the intuitive-thinking learner, and (d) the intuitive-feeling learner. The sensing-thinking learner focuses on facts and likes to know exactly what is expected. The sensing-feeling learner focuses on personal values and likes to know how others feel. The intuitive-thinking learner focuses on the meanings and relationships of

information and wants to know why a thing is so. The intuitive-feeling learner focuses on the personal exploration of a subject (Hanson Silver Strong & Associates, Thoughtful Education).

No matter how they are described, most research shows the benefits of using learning styles in the classroom to help students learn. Matching instruction to a student's learning style has proven successful in improving student achievement (Dunn & Dunn, 1979; Elliot, 1991; Jaouen, 1990; Smith & Renzulli, 1984). Some studies have also shown that it is important to use alternative learning strategies on students in order to show them other ways of learning or to modify some of their learning characteristics (Hand, 1990; Smith & Renzulli, 1984).

Statement of the Problem

Since matching of student learning styles with teaching strategies has been successful in the classroom, it seems possible that learning styles could influence or have some relevance to reading selections. The purpose of this study was to examine the correlation between learning styles and students' selections of independent reading material and the amount of time spent reading.

The following research questions were considered:

1. Is there a relationship between learning styles and students' independent reading selections?

2. Do students with certain learning styles spend more time reading independently?

Significance of the Study

In order to create lifetime readers there is a need to know what makes one student an avid reader and another a reluctant reader. Learning style may be one indicator of a student's selection of reading material. If students of a certain learning style prefer to read a certain type of book, reluctant readers of the same learning style may be encouraged to read that type of book. Learning styles have been analyzed and studied for many yearss. The majority of the results have been used to create successful teaching strategies for the classroom. This survey may show (a) if there is a correlation between the learning styles and the independent reading selections of a group of middle school students and (b) if there is a correlation between a student's learning style and the amount of time spent reading independently.

Assumptions and Delimitations

Even though the learning style inventory used in this survey was called a learning preference inventory, it was assumed that they were the same in practice. This study was delimited to seventh-grade students from the same neighborhood school in the Cobb County School System.

Definitions of Terms

The following are definitions of terms used in the study:

1. Learning style: the way a person absorbs and retains information and/or skills (Dunn, cited in Sproles & Sproles, 1984).

2. Learning style matching: matching teaching strategies with a student's learning style or matching a teacher's characteristics with a student's learning style or, in the case of this study, matching a student's learning style to reading selection.

3. Independent reading: reading material other than material assigned in school.

4. Reading selections: categories of books a student chooses to read; for purposes of this study, the categories were based on Sears List of Subject Headings, 13th ed. (Rovira & Reyes, 1986).

CHAPTER 2

REVIEW OF THE LITERATURE

> The question was a simple one, but the group of vocal, energetic students fell silent for a moment. Until then, responses rolled from their mouths as easily as pages turned in a thriller. What motivates you to read for pleasure? It was like asking why eat something that tastes good. (Martin, 1991, p. 47)

This question has been explored and researched for many years. Studies show that middle school students do not do much independent reading or pleasure reading (Lesesne, 1991; Martin, 1991). We must find a way to motivate students to read for pleasure if we are to develop lifetime readers (Lesesne, 1991).

Students' learning styles are now being used by classroom teachers to motivate students to learn (Elliot, 1991; Jaouen, 1990). The same learning styles may give a clue to why students select certain books to read and why some students are avid readers and others are not. This review focuses on the benefit of using learning styles in the classroom, adolescent reading selection, and the need to find a way to motivate reluctant readers.

Learning Styles

Learning styles may have been researched and developed by many educators, such as Gregorc, Kolb, Dunn, Keefe, and

Griggs (Student Learning Styles, 1979). Although the learning styles are different, they are based on the idea that students do not all learn the same way. As defined by Dunn, a learning style is the way a person absorbs and retains information and/or skills (Sproles & Sproles, 1984).

Kolb (1984) believed that as a result of our heredity, past life experiences, and our present environment, most people develop a learning style that emphasizes certain learning abilities. Some people excel at assimilating facts into theories, others are logical thinkers, and still others must experience things in order to learn. Each individual has a unique learning style that has strong and weak points (Kolb, 1984). Kolb cited the research of Kagan and Witkin to support his theory of unique learning styles. Several studies have also proven that learning styles remain from early years to adulthood (Rubin, cited in Kolb, 1984).

Kolb's four learning styles--convergent, divergent, assimilative, and accomodative--are based on Jung's work in the 1920s. Jung believed that there are four basic functions of human adaptation to the environment that create individual differences. These four functions are: (a) mode of relating to the world via introversion or extroversion, (b) mode of decision making via perception or judgment, (c) preferred way of judging via thinking or feeling, and (d) preferred way of perceiving via sensing or intuition (Kolb, 1948).

In Dunn and Dunn's (1979) research with learning styles, they found that some students achieve only through specific strategies that do not produce positive results for others. These students seemed to have certain common characteristics. These characteristics or elements of learning styles are arranged into four major groups: environmental, emotional, sociological, and physical (Dunn & Dunn, 1979). Dunn and Dunn found through experimental studies that students respond differently to their immediate environment. Some students require silence when trying to learn, and others require sound. Students require different amounts of light to study. Finally, some students work better on the carpet or couch, while others must sit at a desk in order to study (Dunn & Dunn, 1979).

The emotional elements are motivation, persistence, responsibility, and a need for structure. Students who are motivated, persistent, and responsible need to be told their objective, resources they may use, and how they are to demonstrate their skill. Unmotivated students need short assignments and a great deal of supervision (Dunn & Dunn, 1979).

The sociological elements are how students respond to other people. Some students work better with peers, others with adults, others alone, and some like a combination of the three (Dunn & Dunn, 1979). The physical elements include perceptual strengths, intake, time of day, and need for mobility (Dunn & Dunn, 1979).

McCarthy's 4-Mat System of learning styles is based on the fact that some people learn by thinking their way through, while others learn through sensing and feeling. Some learn by watching and others by doing. A person's learning style is a unique combination of these approaches (Arbetter, 1990).

Although learning styles have been around since the 1960s, there has been a recent renewed interest in them by educators. This could be because educators are looking for ways to reach an increasingly diverse student population and to decrease a high dropout rate (O'Neil, 1990). Understanding learning styles can help break ineffective teaching patterns and give teachers a variety of methods from which to chose. Guild stated, "One of the things learning styles does is focus on student strengths rather than weaknesses" (quoted in O'Neil, 1990, p. 5). Carbo, director of research and staff development for Learning Research Associates, stated, "If we look at kids who are the dropouts of the system, they have styles that are most severely mismatched with what's going on in schools" (quoted in O'Neil, 1990, p. 5). Being exposed to a variety of activities will give students more opportunities for success. They can choose the strategy that utilizes their strengths (Guild, 1989; Sternberg, 1990). Students learn more easily when they are allowed to process information in their own natural way (Guild, 1989). They are more comfortable learning in their style. If students are aware

of their learning styles and the strategies that match them and other learning styles, they are better equipped to deal with an assignment that does not match their strengths. They can also create an environment that works best for them. Understanding their learning style will enable students to develop different strategies for coping with difficult situations and take responsibility for their own learning (Hand, 1990).

Learning Style Research

Learning styles have proven successful in the classroom through research and practical experience. Studies have been conducted to determine how learning style matching affects student achievement. The matching or mismatching may involve placing students with certain characteristics in classrooms with teachers who will modify these characteristics--for example, placing students with reflective teachers to make them more reflective (Smith & Renzulli, 1984). This mismatching can result in the student learning new and varied techniques to solve problems (Hand, 1990; Student Learning Styles, 1979). Research on this subject has also shown that harmful effects can result. Placing students in an environment that is inconsistent with their learning style for a long period of time may cause stress for those students (Smith & Renzulli, 1984; Student Learning Styles, 1979).

Another approach to learning style matching is to match teachers and students with similar characteristics. Studies have revealed that this type of matching resulted in greater satisfaction and higher grades for the students (Thelen, cited in Smith & Renzulli, 1984).

Students also may be matched with teaching methods that complement their learning style. Research shows that students' attitudes toward teaching strategies can affect their openness to content being taught. When students are allowed to choose a preferred method, their achievement is greater (Smith & Renzulli, 1984). In a study that Smith did in 1976, the results showed that students taught by the method they preferred were more interested in the subject and wanted to learn other subjects the same way (Smith & Renzulli, 1984). But matching learning styles all the time may cause students to become bored with school (Student Learning Styles, 1979). They need to experience different methods so that they may choose the one that best meets their needs at the time.

Dunn commented on research conducted at more than 60 institutions; she stated that every study showed that students learned better, achieved better, and liked school better when learning styles were used (cited in O'Neil, 1990). Carbo has seen gains of 10 times as high after learning styles teaching strategies were matched with students' learning styles (cited in O'Neil, 1990).

Hand (1990), an eighth-grade science teacher and a private consultant on learning styles, teaches her students to be aware of their learning styles and to develop strategies for dealing with demands of school and life. Students learn to create an ideal learning environment. Hand has seen many benefits of learning styles. Her students develop more confidence in themselves. They take responsibility for their own learning, and they see that their way of learning is not better than another student's, just different (Hand, 1990).

Jaouen (1990), a seventh- and eighth-grade language arts teacher, and other staff members at Mt. Everett Regional High School in Massachusetts, have made their students aware of their learning styles by giving them the Murphy-Meigeier test. The teachers then designed activities to match the learning styles. Jaouen (1990) stated, "Learning styles has certainly had an impact at our school, and we are all the richer for it" (p. 14).

At Brightwood Elementary School in Greensboro, North Carolina, the standardized test scores have increased ever since the introduction of learning styles in 1986. The school used a model designed by Dunn and Dunn at St. John's University Center for the Study of Learning and Teaching Style (O'Neil, 1990).

A successful reading program has been developed at Oakland Junior High School using a learning style approach. The Learning Styles Inventory was given to the students in

1989. Students were given an explanation of the inventory and their learning style. They were able to make their own decisions about their learning environment. The program was considered a success not only because the number of students signing up for the program more than doubled in 1 year, but also because 36 of 50 students who were involved in the program had a grade level equivalency gain of 4 months or better in a 4-month period of time. Parker, a reading specialist at the school, considered the success of the learning styles program to be "nothing short of phenomenal." The students have become experts on their learning style and getting their learning needs met (Elliot, 1991).

Some researchers have found problems with the studies conducted on learning styles. They have complained that definitions and terms vary widely from study to study. They also have said that learning style researchers tended to print results that were based on only one set of data, thus weakening validity of the study. Most of the research has been done by educators in the learning style field, which also hinders the acceptance of findings (Curry, 1990; O'Neil, 1990).

Some educators feel that students can get false results from a learning styles inventory because they have learned to adapt to the popular methods of teaching, or they may respond to questions on the inventory the way they think their teacher wants them to respond. These students may become mislabeled and therefore may be taught by the wrong

learning strategy (Gregorc, 1990; Gregorc, cited in O'Neil, 1990).

Adolescent Reading Selection

A number of studies have been done to see what adolescents are reading and how often they read. These studies ranged from formal surveys to informal interviews. Several of the studies showed a gender preference in book selection (Isaacs, 1992; Langerman, 1990). Isaacs (1992) collected data from annotations of books written by students in Grades 6, 7, and 8 in Park School in Maryland. The information was collected from 1989 to 1990. Students wrote annotations of books they chose to read. Boys were more likely to read science fiction and serial fantasy adventure. Boys also liked books about sports and books with a male as the main character (Langerman, 1990). Girls seemed to prefer romances (Watson, cited in Langerman, 1990). In a survey of students in North Carolina, 90% of the girls listed romance as their favorite reading category (Mellon, cited in Huntwork, 1990). Another study of 10 New York City high schools revealed 73% of the girls read romance books (Banks, cited in Huntwork, 1990).

One thing that the research on adolescent reading preferences has shown is that there is a wide variety of reading interest in this age group. This is a time of inconsistent growth for students, and this shows up in their reading. Some adolescents still feel like children and are

drawn to books that are easy to read, with young main characters. Others prefer more adult books. Discovering what makes them the kind of readers they are is not easy (Isaacs, 1992; Vogel & Zamcanella, 1991).

There are several types of books that students can choose to read independently. They are listed and described in various sources. Sears List of Subject Headings, 13th ed. (1986) lists them as: science fiction, fantasy, historical fiction, mystery/detective, horror, romance, adventure, and wit and humor.

Science fiction books explore the possibilities for the future. They allow students to experience the thrill of discovery, the sense of wonder, and other basic scientific emotions (Broadus, 1973).

Magic, fantasy, and the world of make-believe are important elements in fantasy books. They often have such themes as the conflict between good and evil, the search for self, and the meaning of friendship. They can create imaginary worlds that are full of vivid imaginings, mystical fancy, and humorous exaggeration (Reading for the Fun of It, 1976).

Reading historical fiction is a way of personalizing historical fact. The settings and events are true to the period, giving the reader authentic background for understanding history (Reading for the Fun of It, 1976).

Students who read mystery books have found a way of satisfying their urge to figure out secret things. These

books involve the reader in unraveling puzzles and solving crimes. They deal with supernatural powers, strange human deceits, or crimes and solutions (Reading for the Fun of It, 1976). Students like mysteries because they depict the rational, unemotional sleuth who analyzes the evidence and solves the problem (Broadus, 1973).

Adventure books involve characters who are responding to risky or exciting challenges. They allow the reader to evaluate fictional characters who confront perilous experiences and to speculate what they would do in a similar situation (Reading for the Fun of It, 1976).

Humor in books can come from the characters or from situations. The incidents can be realistic or pure fantasy (Reading for the Fun of It, 1976).

No matter what students choose to read, they do not choose to read enough (Carbo, 1990; Cheatham, 1989; Lesesne, 1991; Martin, 1991). In Brevard County, Florida, in 1989, verbal scores on the SAT fell below the national average for the first time. A survey of 175 middle school students in this county showed that 60% were either neutral about reading or hated it (Martin, 1991). Another survey of young readers' attitudes toward reading developed by the Research Market Department of Ketchum Public Relations, in cooperation with the American Library Association, showed a decrease in the level of enthusiasm toward reading between the ages of 7 and 10 (Cheatham, 1989).

Summary

Although researchers define learning styles in different ways, they agree that people do not all learn in the same way. Most of the learning styles research studies show that students who are taught with methods that complement their learning styles achieve better results and enjoy school more. If students are aware of their learning styles, they are better prepared to make decisions about their learning needs. They are able to take responsibility for their own learning. Most of the research on adolescent reading shows that students do not do enough independent reading. It shows that there is a wide variety of reading selection at this age. Some reading preference studies show gender preference, with boys liking sports and science fiction and girls preferring romances.

If learning styles prove to be a clue to students' reading selection, this information can be used to help reluctant readers choose reading material that they will enjoy. Matching learning styles to reading selection could help create lifetime readers.

CHAPTER 3

METHODOLOGY AND PROCEDURES

This descriptive survey research study was designed to determine the relationship between students' learning styles and their independent reading selections and the amount of time spent reading independently.

Population

The population for this study was 384 seventh-grade students in a Cobb County, Georgia, middle school. The sampling frame was 275 seventh-grade students who had taken the Hanson Silver Learning Preference Inventory (Hanson Silver Strong & Associates, 1978). Those students who scored 70 or above on this inventory in any of the four learning styles became the subjects of this study, resulting in a total of 72 seventh-grade students.

Instrumentation

A questionnaire was designed by the author to determine the preferred independent reading selections of the students and the amount of time the students spent reading independently (see Appendix A). The first question on the questionnaire was designed to answer the research question: Is there a relationship between learning styles and students' independent reading selection? Eight types of

books based on Sears List of Subject Headings, 13th ed. (1986) were listed. Three choices of selection ranging from Always to Never were given. Questions 2, 5, and 6 also related to the students' independent reading selection. Questions 3, 4, and 7 on the questionnaire were concerned with the amount of time the students spent reading independently. This information related to the second research question: Do students with certain learning styles spend more time reading independently?

Members of a library media specialist research class evaluated the questionnaire and made suggestions for changes. After changes were made, the questionnaire was field tested with a group of 30 seventh-grade students at Dickerson Middle School.

Data Collection

The students' learning styles were determined by the Hanson Silver Learning Preference Inventory, developed by Silver and Hanson of Hanson Silver Strong & Associates, Inc., a teacher training and consulting group in New Jersey. The inventory consists of 36 statements of learning methods that the students ranked in order of preference.

Thirty-nine of the seventh-graders were classified by the inventory as sensing-feelers. Sensing-feelers are sociable and interpersonally oriented. They are sensitive to the feelings of others as well as their own. These students prefer to learn about things that affect people's

lives rather than impersonal facts or theories (Hanson Silver Strong & Associates, 1978).

The sensing-thinkers group consisted of 11 of the seventh-grade students. Sensing-thinkers are realistic, practical, and matter-of-fact. They are efficient and results oriented. This type of learner likes to do things that are pragmatic, logical, and useful (Hanson Silver Strong & Associates, 1978).

Sixteen of the students were classified by the inventory as intuitive-feelers. Intuitive-feelers are curious, insightful, imaginative, and creative. They are the dreamers. They are committed to their values, open to alternatives, and constantly searching for new and unusual ways to express themselves (Hanson Silver Strong & Associates, 1978).

Only six of the students were intuitive-thinkers. They are theoretical, intellectually curious, and knowledge oriented. They prefer to think things out for themselves. They have a tolerance for theory, a love for complex problems, and a concern for long-range consequences (Hanson Silver Strong & Associates, 1978).

A letter was sent to the parents of the students taking the questionnaire to obtain permission for the students to be involved with the research project. A copy of this letter is in Appendix B.

During the second week in January the students were divided into groups according to their learning style. The

questionnaire was given to each group separately. Names were not put on questionnaires to maintain confidentiality.

Data Analysis

The data were tabulated and then analyzed using the Statistical Package for the Social Sciences (SPSS-X) computer programs on the mainframe at Georgia State University. A program was written to show the percentage of responses to each question given by the students in the different learning style groups. Using the Chi-Square program, some of the data were then analyzed to see if there was a significant correlation between the data and the type of learning style.

CHAPTER 4

RESULTS

The purpose of this study was to determine the correlation, if any, between students' learning styles and the types of books they choose to read independently and the amount of time they spend reading independently. Two hundred seventy-five of 384 seventh-grade students in a Cobb County, Georgia, middle school were given the Hanson Silver Learning Preference Inventory (Hanson Silver Strong & Associates, 1978). Seventy-two of these 275 students who scored 70 or above in one of the four learning styles were given a letter to obtain permission to be involved in the study. Sixty-six of these students were given the questionnaire: 36 sensing-feelers, 11 sensing-thinkers, 13 intuitive-feelers, and 6 intuitive-thinkers. All of the questionnaires were complete and used in the study.

Research Question 1

Research Question 1 stated: Is there a relationship between learning styles and students' independent reading selection? Questionnaire Questions 1 and 2 related to Research Question 1.

To determine the students' independent reading selection, eight type of books were listed, and the students

were asked to check how often they read these books (Always, Sometimes, or Never). Among the group of students with the sensing-feeling learning style, 72.2% responded that they always read mystery books, and 0% responded that they never read mystery books (see Table 1). Among the sensing-thinkers group, 45.5% stated that they always read mystery books, with 36.3% stating that they always read adventure books (see Table 2).

Among the intuitive-feelers, 61.5% stated that they always read adventure and fantasy books, and 0% stated that they never read the adventure and fantasy books (see Table 3). Of the six intuitive-thinkers, 83.3% stated that they always read humorous books (see Table 4).

After checking how often they read each type of book, students were asked to state their favorite type of book. Mystery books were chosen as the favorite of 47.2% of the sensing-feelers. The largest percentage (36.4%) of the sensing-thinkers chose adventure books as their favorite. Intuitive-feelers chose fantasy as their favorite type of book by 53.8%. Fifty percent of the intuitive-thinkers chose humor as their favorite type of book (see Table 5).

A chi-square test was run to analyze whether or not the observed frequencies of the preferred types of books and the learning styles were different from that expected to occur by chance. The chi-square value was 58.89 ($df = 24$, $N = 66$, $p < .05$). Since the percentage of cells with expected

Table 1

Sensing-Feelers' Reading Selection

	Always		Sometimes		Never	
Book Type	n	%	n	%	n	%
Science fiction	0	0.0	10	27.8	26	72.2
Fantasy	5	13.9	27	75.0	4	11.1
Historical fiction	1	2.8	13	36.1	22	61.1
Mystery	26	72.2	10	27.8	0	0.0
Horror	14	38.9	12	33.3	10	27.8
Romance	8	22.2	15	41.7	13	36.1
Adventure	14	38.9	23	55.5	2	5.5
Humor	15	52.8	19	41.6	2	5.5

Note. Total n for the sensing-feelers group was 36.

Note. Due to rounding, rows may not total exactly 100%.

Table 2

Sensing-Thinkers' Reading Selection

	Always		Sometimes		Never	
Book Type	n	%	n	%	n	%
Science fiction	0	0.0	3	27.3	8	72.7
Fantasy	3	27.3	5	45.5	3	27.3
Historical fiction	1	9.1	6	54.5	4	36.4
Mystery	5	45.5	5	45.5	1	9.1
Horror	2	18.2	5	45.5	4	36.4
Romance	0	0.0	5	45.5	6	54.5
Adventure	4	36.3	5	45.5	2	18.1
Humor	3	27.2	7	63.6	1	9.1

Note. Total n for the sensing-thinkers group was 11.

Note. Due to rounding, rows may not total exactly 100%.

Table 3

Intuitive-Feelers' Reading Selection

	Always		Sometimes		Never	
Book Type	n	%	n	%	n	%
Science fiction	5	38.5	4	30.8	4	30.8
Fantasy	8	61.5	5	38.5	0	0.0
Historical fiction	1	7.7	7	53.8	5	38.5
Mystery	4	30.8	8	61.5	1	7.7
Horror	3	23.1	6	23.1	4	30.8
Romance	0	0.0	3	23.1	10	76.9
Adventure	8	61.5	5	38.4	0	0.0
Humor	3	23.1	9	69.2	1	7.6

Note. Total n for the intuitive-feelers group was 13.

Note. Due to rounding, rows may not total exactly 100%.

Table 4

Intuitive-Thinkers' Reading Selection

	Always		Sometimes		Never	
Book Type	n	%	n	%	n	%
Science fiction	0	0.0	6	100.0	0	0.0
Fantasy	0	0.0	4	66.7	2	33.3
Historical fiction	0	0.0	3	50.0	3	50.0
Mystery	0	0.0	6	100.0	0	0.0
Horror	1	16.7	1	16.7	4	66.7
Romance	0	0.0	0	0.0	6	100.0
Adventure	3	50.0	2	33.3	1	16.7
Humor	5	83.3	0	0.0	1	16.7

Note. Total n for the intuitive-thinkers group was 6.

Note. Due to rounding, rows may not total exactly 100%.

Table 5

Favorite Type of Book

Type of Book	Sensing Feelers n = 36 %	Sensing Thinkers n = 11 %	Intuitive Feelers n = 13 %	Intuitive Thinkers n = 6 %
Science fiction	0.0	0.0	7.7	16.7
Fantasy	5.6	0.0	53.8	0.0
Historical fiction	0.0	0.0	7.7	0.0
Mystery	47.2	27.3	0.0	16.7
Horror	19.4	9.1	7.7	0.0
Romance	11.1	0.0	0.0	0.0
Adventure	8.3	36.4	15.4	16.7
Humor	8.3	18.2	17.7	50.0

Note. Due to rounding, columns may not total exactly 100%.

frequency was less than 5 for 94.4% of the cells, caution should be exercised in interpreting the results.

To further determine the students' favorite type of book to read independently, Question 5 asked, "Do you have a favorite author? If so, who?" Question 6 asked, "Do you have a favorite book? If so, what is the title?" Of the sensing-feelers, 58.3% had a favorite author and 52.8% had a favorite book. In the sensing-thinkers group, 72.7% did not have a favorite author and 63.6% did not have a favorite book. Of the intuitive-feelers group, 92.3% had a favorite author and 76.9% had a favorite book. Of the six intuitive-thinkers, 66.6% did not have a favorite author and none had a favorite book.

Research Question 2

Research Question 2 asked: Do students with certain learning styles spend more time reading independently? Questions 3, 4, and 7 on the questionnaire related to Research Question 2.

To determine how much time students read independently, the students were asked how many books they read for pleasure during the previous month. Of the students in the sensing-feelers learning style group, 36.1% stated that they read four to five books in the last month. In the sensing-thinkers group, 36.4% stated that they read one book, and 36.4% stated that they read two books last month. Among the intuitive-feelers, 38.5% stated that they read more than five books last month. In the intuitive-thinkers group, 33.3% indicated they had read three books and 33.3% had read four to five books last month (see Table 6).

Table 6

Number of Books Read for Pleasure in the Last Month

		Number of Books Read					
		0	1	2	3	4-5	6+
Learning Style	n	%	%	%	%	%	%
Sensing-Feelers	36	5.6	13.9	16.7	13.9	36.1	13.9
Sensing-Thinkers	11	9.1	36.4	36.4	9.1	9.1	0.0
Intuitive-Feelers	13	7.7	0.0	30.8	15.4	7.7	38.5
Intuitive-Thinkers	6	16.7	0.0	0.0	33.3	33.3	16.7

To analyze whether or not the observed frequencies of the number of books read last month and the learning style were different from that expected to occur by chance, a chi-square test was used. The resulting chi-square value was 22.80 ($df = 15$, $N = 66$, $p > .05$), showing the difference was not statistically significant.

Students were also asked to state how many hours they read for pleasure in a day. Table 7 shows the responses to this question.

Table 7

Number of Hours Reading for Pleasure in a Day

		Number of Hours					
		0	1/2	1	2	3	4+
Learning Style	n	%	%	%	%	%	%
Sensing-Feelers	36	38.3	36.1	38.9	8.3	5.6	28.0
Sensing-Thinkers	11	27.3	45.5	27.3	0.0	0.0	0.0
Intuitive-Feelers	13	15.4	30.8	23.1	15.4	7.7	7.7
Intuitive-Thinkers	6	0.0	66.7	16.7	0.0	16.7	0.0

As shown in Table 7, the largest percentage (38.9%) of sensing-feelers read for pleasure 1 hour a day. Of the 11 sensing-thinkers, 45.5% read half an hour a day. Chi-square was used to determine whether or not the observed frequencies of the number of hours read each day and the

learning style were different from that expected to occur by chance. The resulting chi-square value was 11.98 (df = 15, N = 66, $p > .05$), showing that the difference was not statistically significant.

To help determine how much time the students read for pleasure, they were asked to state how many books they read for pleasure in a year. More than half (55.5%) of the sensing-feelers read between 0 and 19 books in a year. The majority (81.8%) of the sensing-thinkers read between 0 and 19 books in a year. Of the 13 intuitive-feelers, 46.1% also read between 0 and 19 books in a year (see Table 8).

Table 8

Number of Books Read for Pleasure in a Year

		Number of Books			
		0-19	20-39	40-59	60-100
Learning Style	n	%	%	%	%
Sensing-Feelers	36	55.5	27.7	11.1	5.5
Sensing-Thinkers	11	81.8	9.1	9.1	0.0
Intuitive-Feelers	13	46.1	38.4	7.7	7.7
Intuitive-Thinkers	6	33.3	66.6	0.0	0.0

A chi-square was run to analyze whether or not the observed frequencies of the number of books read in a year and the learning style were different from that expected to

occur by chance. The chi-square value was 49.83 (df = 66, N = 66, p > .05), revealing no statistically significant difference.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Findings

The purpose of this study was to see if there is a relationship between students' learning style and their independent reading selection and the amount of time spent reading independently. Although the results of the study were not significant statistically, they did show that among the students involved in the study, the sensing-feelers read mystery books more often than they read the other types of books. They also chose mystery books as their favorite type of book to read independently. Intuitive-feelers read adventure and fantasy books more often than they read the other types of books, but more of them chose fantasy as their favorite type of book to read independently. Intuitive-thinkers read humorous books more often than they read the other types of books and chose humor as their favorite type of book. The sensing-thinkers did not show a dominant reading preference.

In regard to the amount of time students spent reading independently, sensing-thinkers read fewer books in the previous month, and they read a fewer number of hours per day than the students classified into the other three learning styles. Sensing-feelers and intuitive-feelers

spent more hours per day reading independently than the other two learning styles, but a greater percentage of intuitive-thinkers read three or more books the previous month.

Discussion

The results of the study indicated that there may be some relationship between the learning styles and the independent reading selection of three groups of the students involved in the study, although these results are not conclusive and further study is warranted. The intuitive-feelers are characterized as curious, imaginative, and creative. They are dreamers who are constantly searching for unusual ways to express themselves (Hanson Silver Strong & Associates, 1978). They chose fantasy books as their favorite type of book. Fantasy books are based on a world of make-believe; they create imaginary worlds full of magic and fancy (Reading for the Fun of It, 1976). They also read adventure books that involve risky, exciting challenges (Reading for the Fun of It, 1976). More of the intuitive-thinkers, who prefer to think things out for themselves, love complex problems, and consider long-range consequences (Hanson Silver Strong & Associates, 1978), chose humorous books as their favorite type of book. Sensing-feelers, who are sociable, interpersonally oriented, sensitive to the feelings of others, and prefer to learn about things that affect people's lives (Hanson Silver

Strong & Associates, 1978), usually chose mystery books for independent reading. The sensing-thinkers, who are realistic, practical, matter-of-fact, and logical (Hanson Silver Strong & Associates, 1978), did not have a dominant reading preference.

Over three-fourths of the students in three of the learning style groups (sensing-feelers, sensing-thinkers, and intuitive-thinkers) read independently 1 hour or less daily, with the sensing-thinkers spending the least amount of time reading daily. This supports Lesesne's (1991) study of 500 middle school students that showed 75% of the students read less than 1 hour daily. This study of seventh-grade students also identified a small group of students (within a broader group of students) as reading less than the group as a whole, as opposed to Lesesne's (1991) study, which identified one large group of middle school students without narrowing them down to a specific learning style.

A delimitation of this study that may have affected the results is the fact that all the students involved in the study were seventh graders from the same neighborhood. Future studies could use larger and more varied populations to compensate for this limitation. Students' inability to estimate the number of books they read and the time they spent reading independently may also have affected the results of this study.

Applications

Since the results of this study are not statistically significant, caution should be exercised in interpreting and using the results. For the students involved in this study, the results might be used to recommend books for them to read independently. For example, if a reluctant reader has a sensing-feeling learning style, a mystery book might be recommended for the student to read; or if he/she has an intuitive-feeling learning style, a fantasy or adventure book might be recommended. The results may also be used to consider sensing-feelers as possible reluctant readers because they read fewer hours and they do not seem to have a dominant reading preference. These students might be put in a program that encourages and rewards independent reading.

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APPENDIXES

Appendix A

Questionnaire

Please answer the following questions.

1. How often do you read these types of books for pleasure? (check the appropriate blank)

	Always	Sometimes	Never
A. Science fiction	_____	_____	_____
B. Fantasy	_____	_____	_____
C. Historical fiction	_____	_____	_____
D. Mystery	_____	_____	_____
E. Horror	_____	_____	_____
F. Romance	_____	_____	_____
G. Adventure	_____	_____	_____
H. Humor	_____	_____	_____

2. Which one of the above types of books is your favorite?
_____

3. How many books did you read for pleasure in the last month? (check the appropriate blank)

___0, ___1, ___2, ___3, ___4-5, ___more than 5

4. How many hours do you read for pleasure in a day? (check the appropriate blank)

___0, ___1/2, ___1, ___2, ___3, ___more than 3

5. Do you have a favorite author?____ If yes, who?_____

6. Do you have a favorite book?____ If yes, what is the title?
_____

7. About how many books do you read for pleasure in a year (including the summer)? _____

8. Please check the appropriate blank. ___male ___female

Appendix B

Permission Letter

Dear Parents of _____,

As part of the requirements for a Specialist degree in Library Media Technology at Georgia State University, I am conducting a study to examine the correlation between learning styles and students' independent reading selections and the amount of time students spend reading independently. I have designed a reading questionnaire that I would like to give to the students who scored 70 or above on one of the learning styles of the Hanson Silver Strong Learning Preference Inventory. Names will not be put on the questionnaires.

The study may assist us in suggesting independent reading materials for our students. I would appreciate your permission to give _____ this reading questionnaire.

Thank you for your help.

_____ My child has permission to complete the reading questionnaire.

_____ My child does not have permission to complete the reading questionnaire.

_____
Signature